ICINCO 2017 - Proceedings of the 14th International Conference on Informatics in Control, Automation and Robotics, 2017, vol.2, pages 417-424

Arbitrary trajectory foot planner for bipedal walking

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Abstract

© 2017 by SCITEPRESS - Science and Technology Publications, Lda. All Rights Reserved. This paper presents a foot planner algorithm for bipedal walking along an arbitrary curve. It takes a parametrically defined desired path as an input and calculates feet positions and orientations at each step. Number of steps that are required to complete the path depends on a maximum step length and maximum foot rotation angle at each step. Provided with results of the foot planner, our walking engine successfully performs robot locomotion. Verification tests were executed with AR601M humanoid robot.

Keywords

Foot planner, Preview control, Zero moment point

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